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## BURNOUT AND COPING STRATEGIES AMONG NURSING STAFF IN INTENSIVE CARE UNITS AT MANSOURA UNIVERSITY HOSPITALS

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### Abstract:

**Background:** Today, job burnout is a familiar term among intensive care nursing staff, causing serious emotional, psychological, physical and social problems for those who suffer from it. Job Burnout leads to job dissatisfaction, low organizational commitment, and absenteeism from work. Coping has been viewed as a stabilizing factor that may assist in managing demands include attempts to master the environment or to minimize, avoid, tolerate, or accept stressful conditions through using coping strategies. **Aim of the study:** Identify Burnout and Coping Strategies among Nursing Staff in Intensive Care Units at Mansoura University Hospitals. **Subjects and Methods:** a descriptive design was utilized. The sample consisted of 316 nursing staff who have either diploma or baccalaureate degree with at least one year experience. Two tools were used for data collection first; Maslach Burnout Inventory that included 22 questions and, second Ways of Coping Questionnaire sheet (WOCQ) it consists of 66 items. **Conclusion:** both burnout and coping strategies among nursing staff in intensive care units at Mansoura University Hospitals were in moderate level. There was statistical significant difference between burnout and coping strategies. That means the more burnout experienced, the more coping strategies will used. **Recommendation:** it is recommended that work redesign plans as well as early assessment and intervention may be helpful in the reduction of job burnout in nursing staff working in Mansoura university hospitals.

**Key words:** Burnout, Intensive Care Unit, And Coping Strategies.

### Introduction:

Nursing by virtue of its nature is a demanding stressful profession. It is both physically and mentally challenging; some of the challenges today nursing staff faces are multiple reporting system, lack of proper training in handling critical patients, lack of role clarity and various administrative responsibilities (1,2). Intensive care unit (ICU) are sections within a hospital that look after critically ill patients. ICU is placed as one of the most stressful aggressive, tense and traumatizing environment for work, which can entail physical and mental health damage for patients as well as the staff working there<sup>(3, 4)</sup>. ICU nursing staff practice in a complex assessment, high

intensity therapies and continuous nursing attentiveness. Nurses constantly experience a stressful environment because of the complex nature of patient's health problems requiring an extensive use of very sophisticated technology. A consequently working under stress contributes to nurse's burnout<sup>(5)</sup>.

Burnout is a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment. Burnout is common in the nursing profession. Among nursing profession burnout reported highly in ICU nursing staff<sup>(6)</sup>.

There are many contributing factors lead to nurse's burnout such as ongoing occupational workload, lack of control, in

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sufficient rewards, lack of support and trust, unresolved conflict and absence of fairness in the workplace<sup>(7)</sup>.

As well as job characteristics have greater effect on nurses burnout, it is important to understand how differences between nurses affect how they deal with stressors at work<sup>(8)</sup>. Coping defined as constantly changing cognitive and behavioral efforts to manage specific external and or internal demands that appraised as taxing or exceeding the resources of the person<sup>(9)</sup>. Managing demands include attempts to master the environment or to minimize, avoid, tolerate, or accept stressful conditions through using coping strategies. Coping strategies defined as types of conscious adaptive responses consistently applied to a broad range of stressful events<sup>(10)</sup>.

There are number of studies were done in Egypt which focused on investigating the relationship between burnout and coping strategies among operating room nurses and among nurse educators<sup>(11 ,12)</sup>. No attempt were done to identify Burnout and Coping Strategies among ICU nursing staff at Mansoura University Hospitals, and it is hoped that the present study will help in providing more information and measures about decreasing ICU nursing staff burnout.

#### **Aim of study**

The present study aimed to identify burnout and coping strategies among nursing staff in intensive care units at Mansoura university hospitals.

#### **Subjects and Methods**

##### **1- Study Design:**

Was a descriptive cross sectional design

##### **2- Setting:**

The study carried out in Intensive Care Units at Mansoura University Hospitals, which include 14 ICUs as followed: 1- Main Mansoura university hospital includes three intensive care units. 2- Pediatric hospital includes four intensive care units. 3-Specialty medical hospital includes three intensive care units. 4. Emergency hospital includes four intensive care units.

##### **3- Subjects**

All nursing staff working in ICU at Mansoura university hospitals (n=316), who have either diploma or baccalaureate degree with at least one year experience were recruited for this descriptive study. The studied nursing staff (316) included :( 67) at Specialty medical hospital, (82) at University hospital, (58) at Emergency hospital, and (109) at Pediatric hospital.

##### **4-Tools of data collection**

Two tools used.

**Tool (I)** consists of two parts: **Part (1):** demographic characteristics such as: hospital name, ICU name, age, educational qualification, years of experience, position at work, marital status and number of children.

**Part (2):** Maslach Burnout Inventory (MBI) developed by Maslach et.al (1996)<sup>(13)</sup>. It included 22 items cover areas of emotional exhaustion (9question), personal accomplishment (8 questions) and depersonalization (5questions). - **Scoring system** The subject's responses in this part were scored in seven point Likert scale (1-6) ranging from never to every day , every day(6) , few times a week(5), once a week(4), few times a month( 3), once a month (2), few times a year(1)and never (Zero). Score of burnout subscale as following:<sup>(14)</sup>:

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MBI subscale	Range of experienced burnout		
	low	moderate	high
Emotional exhaustion	≤17	18–29	≥30
Depersonalization	<6	6–11	≥12
Personal accomplishment	≥40	39–34	≤33

Personal accomplishment was scored in opposite direction.

Total burnout score:

1-High ≥ 68    2-Moderate: 61- 67    3-Low: ≤ 60

**Tool (II):** Ways of Coping Questionnaire (WOCQ). Developed by (Folkman and Lazarus, 1985) <sup>(15)</sup>. It consists of 66 items cover areas of confronting (7 items), distancing (9 items), self-controlling (11 items), seeking social support (6 items), accepting responsibility (8 items), escape-avoidance (9 items), plainful problem solving (7 items), and positive reappraisal (9 items). **Scoring system**, the responses of the study subjects for ways of coping questionnaire were measured in four points Likert Scale ranging from zero (not used) to 3 (used a great deal).

Scoring system for coping strategies

Low used: 0-49% (0-98)

Moderately used: 50%-75% (99-148)

Highly used: >75% (149-198)

Tools translated into Arabic, and tested for its content validity and relevance by five experts in nursing administration from faculties of nursing and accordingly the necessary modification done. The reliability of the tool was assessed by using pre-test and post-test. Chronbach's alpha for the subscales of burnout; emotional exhaustion, depersonalization, personal accomplishment are (0.89, 0.82, and 0.71) respectively. **Chronbach's alpha** for the total scale of coping is

(0.80).A pilot study for the data collection tools were carried out on (28) of staff nurses from intensive care units at Mansoura university hospitals that randomly selected, and excluded from the total sample, after the development of the tools and before starting data collection.

**5-Data analysis:** collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 13, SPSS).

**Results:**

**Table (1) Demographic data of the studied nursing staff in ICUs at Mansoura University hospitals.** Table (1) shows that 34.5 % of the studied nursing staff were in pediatric hospital intensive care units, while 18.4% of the studied nursing staff were in emergency hospital. Concerning age in years 48.1% of studied nursing staff were in age group 25-, while a small percentage 2.8% were in age group <20. The table also reflects that 38.0 % of studied nursing staff having bachelor's degree of nursing, while 0.6 % of studied sample having master/ doctorate. Regarding years of experience, 51.9% experienced 6- while small percentage 4.1 % experienced ≥16 years. In relation to position at ICU, 96.9% were staff nurses, while small percentage 3.2% were head nurses. The table also illustrate that more than half 68.4 % were married, while a small percentage 3.2% were widow. Regarding children more than half 57.3 %

having children, 43.6 % of them having two children while 7.2 % having four children.

**Table (2):** Level of experienced burnout and mean scores among the studied nursing staff in ICUs at Mansoura University hospitals. This table shows that total mean score degree of burnout experienced by ICUs nursing staff was moderate. In addition, this table shows that more than half of studied nursing staff at ICUs at Mansoura University hospitals having moderate emotional exhaustion, high depersonalization and high personal accomplishment.

**Table (3)** Level of coping strategies used by the studied nursing staff in ICUs at Mansoura University hospitals. This table illustrates that lowest coping strategies used by studied ICU nursing staff is plainful problem solving 53.5% followed by escape avoidance, positive reappraisal and distancing (50.6%, 50.5% and 50.3%) respectively, while moderately used coping strategies social support, accepting responsibility, confronting, and distancing (54.4%, 50.0% and 47.5% and 46.2%) respectively. Regarding total coping

(49.7%) of studied ICU nursing staff used coping strategies in low level, (47.5%) of studied ICU nursing staff used coping strategies in moderate level, while (2.8%) having high coping strategies used. At the last, the mean score of coping strategies is  $(100.03 \pm 22.61)$ , which indicates moderate coping strategies used by ICU nursing staff.

**Table (4) Correlation between scores of experienced burnout and coping strategies used by the studied nursing staff in ICUs at Mansoura University hospitals.** The table shows that there was significant correlation between emotional exhaustion and personal accomplishment with all coping strategies with p value (0.0001\*). Regarding depersonalization there was significant relationship with confronting, distancing, self-controlling, accepting responsibility, escape avoidance, while there is no significant difference between depersonalization and social support, plainful problem solving and positive reappraisal. Also the table reflects that there was highly significant relationship between total burnout and coping strategies where p value (0.0001\*).

**Table (1):** Demographic data of the studied nursing staff in ICUs at Mansoura University hospitals.

Variables	The studied nursing staff at ICUs(n=316)	
	n	%
<b>•Work place:</b>		
Specialty medical hospital	67	21.2
University hospital	82	25.9
Emergency hospital	58	18.4
Pediatric hospital	109	34.5
<b>•Age (years):</b>		
<20	9	2.8
20-	71	22.5
25-	152	48.1
30-	58	18.4
35-45	26	8.2
<b>•Education qualification:</b>		
Diploma of Nursing	88	27.8
Technical institute of Nursing	106	33.5
Bachelor's Degree of Nursing	120	38.0
BSc+ Master / Doctorate	2	0.6
<b>•Experience in years:</b>		
1-	83	26.3
6-	164	51.9
11-	56	17.7
≥16	13	4.1
<b>• position at ICU:</b>		
Staff nurses	306	96.8
Head nurse	10	3.2
<b>•Marital status:</b>		
Single	52	16.5
Married	216	68.4
Divorced	38	12.0
Widow	10	3.2
<b>•Having children:</b>		
Yes	181	57.3
No	135	42.7
<b>If yes, number of children:</b>	(n=181)	
One	43	23.8
Two	79	43.6
Three	46	25.4
Four	13	7.2

**Table (2):** Level of experienced burnout and mean scores among the studied nursing staff in ICUs at Mansoura University hospitals.

Level of burnout	Burnout subscales among the studied nursing staff at ICUs (n=316)							
	Emotional exhaustion (n=316)		Depersonalization (n=316)		Personal accomplishment (n=316)		Total burnout (n=316)	
	n	%	n	%	n	%	n	%
▪ Low	34	10.8	27	8.5	12	3.8	144	45.6
▪ Moderate	160	50.6	87	27.5	33	10.4	151	47.8
▪ High	122	38.6	202	63.9	271	85.8	21	6.6
Scale Range	(0-54)		(0-30)		(0-48)		(0-132)	
Range	11-54		0-29		6-48		29-130	
Mean±SD	28.13±9.55		13.07±5.40		26.26±7.57		67.45±16.69	
Median	26.00		13.00		26.00		67.00	

**Table (3):** Level of coping strategies used by the studied nursing staff in ICUs at Mansoura University hospitals.

Coping modes main items	Level of coping modes used by the studied nursing staff at ICUs (n=316)						Range
	Low		Moderate		High		
	n	%	n	%	n	%	Mean±SD
Confronting	147	46.5	150	47.5	19	6.0	3-21 10.80±3.17
Distancing	159	50.3	146	46.2	11	3.5	5-24 13.41±3.83
Self-controlling	158	50.0	140	44.3	18	5.7	6-33 16.71±4.59
Social support	118	37.3	172	54.4	26	8.2	1-18 9.27±2.91
Accepting responsibility	150	47.5	158	50.0	8	2.5	2-22 11.70±3.37
Escape avoidance	160	50.6	144	45.6	12	3.8	6-26 13.71±3.58
Painful problem solving	169	53.5	118	37.3	29	9.2	2-21 10.50±3.52
Positive reappraisal	160	50.5	133	42.1	23	7.3	4-26 13.93±4.36
Total coping modes	157	49.7	150	47.5	9	2.8	57-189 100.03±22.61

**Table (4)** Correlation between scores of experienced burnout and coping strategies used by the studied nursing staff in ICUs at Mansoura University hospitals.

Burnout subscales	Level of burnout among the studied nursing staff at ICUs (n=316)							
	Emotional exhaustion		Depersonalization		Personal accomplishment		Total burnout	
	r	P	r	P	r	P	r	P
<b>Confronting</b>	0.348	0.0001*	0.221	0.0001*	0.430	0.0001*	0.466	0.0001*
<b>Distancing</b>	0.471	0.0001*	0.208	0.0001*	0.353	0.0001*	0.497	0.0001*
<b>Self-controlling</b>	0.455	0.0001*	0.115	0.041*	0.488	0.0001*	0.519	0.0001*
<b>Social support</b>	0.373	0.0001*	0.054	0.340	0.411	0.0001*	0.417	0.0001*
<b>Accepting responsibility</b>	0.450	0.0001*	0.128	0.023*	0.417	0.0001*	0.488	0.0001*
<b>Escape avoidance</b>	0.395	0.0001*	0.203	0.0001*	0.334	0.0001*	0.443	0.0001*
<b>Plainful problem solving</b>	0.451	0.0001*	0.035	0.537	0.511	0.0001*	0.501	0.0001*
<b>Positive reappraisal</b>	0.406	0.0001*	0.045	0.427	0.536	0.0001*	0.490	0.0001*
<b>Total coping strategies</b>	0.548	0.0001*	0.162	0.004*	0.570	0.0001*	0.624	0.0001*

\*Significant (P<0.05)

**Discussion**

Burnout syndrome has been highly documented in health care professionals especially ICUs nurses. The intensive care unit (ICU) is a highly demanding stressful environment, and associated with a high rate of burnout syndrome among staff nurses. The cost of burnout syndrome includes decrease quality of care, increase absenteeism, high turnover rates and poor communication between staff nurses<sup>(16,17)</sup>. Therefore, the present study aims to identify burnout and coping strategies among nursing staff in ICUs at Mansoura University Hospitals.

The present study revealed that the total mean score degree of burnout among nursing staff in ICUs at Mansoura university hospitals is moderate (**table 2**). **In the same line** with our findings; study done at General Hospital Sveti Duh Zagreb ,Croatia<sup>(18)</sup>, performed to investigate the degree of burnout

experienced by intensive care staff on a group of 71 physicians and nurses, they found that overall job burnout represented in a moderate degree. Also another study in Iran, proved that the total degree of burnout among nurses was moderate<sup>(19)</sup>.

On the other hand, the finding of the present study is inconsistent with study conducted at Hospital Sainte-Marguerite Teaching Hospital, France, performed to evaluate the prevalence and associated factors of burnout among staff working in intensive care units (ICUs)<sup>(16)</sup>. They found high levels of burnout in the ICU. The finding of our study is dissimilar with study done to identify the sources of stress among nurses at Benha university hospital and to shed light on the prevalence of burnout syndrome among the nurses. She found that high rate of burnout was reported among ICU nurses<sup>(20)</sup>.

Burnout separated into three dimensions, emotional exhaustion,

depersonalization and personal accomplishment <sup>(21)</sup>. Results of this study showed that more than half of nursing staff in ICUs experienced moderate emotional exhaustion (**table2**). Results of this study are in the same line with study conducted at Faculty of Education University of Ulster Northern Ireland<sup>(22)</sup>, revealed that significant levels of moderate emotional exhaustion than that of the normative national data for all helping profession.

Depersonalization tends to occur as a response to emotional exhaustion. Nurses with depersonalization attempt to distance themselves from patients and their families. Nurses find the demands of their work more manageable when they consider the recipients of their care as impersonal objects. Unfortunately, prolonged depersonalization leads to indifference and cynical attitudes <sup>(23)</sup>. Results of this study showed that more than half of studied ICUs nursing staff have high depersonalization (DE). This may due to excessive workload.

The present study finding was congruent with study conducted at Tanta University Hospitals, to explore the relationship between nurse's burnout and organizational commitment. Who examined 171 staff nurses from emergency, intensive care units and general medical surgical departments. They found that that all staff nurses in emergency and intensive care units experienced high level of depersonalization (DP) <sup>(24)</sup>. While, study done in Tehran; found that nurses had low level of depersonalization <sup>(25)</sup>.

Results of this study showed that ICUs nursing staff experienced high personal accomplishment. Perhaps ICU nursing staff experience high level of personal accomplishment as they are working in demanding, hi-tech, fast paced and dynamic, rapidly changing environments, they work with varying degrees of autonomy and have direct contact in

interacting with patients and families. These factors may combine to give nurses a feeling of satisfaction regarding their work and the worth of their work to others, leading to an increased feeling of personal accomplishment. In the same line study done at University of North Carolina and found that higher levels of personal accomplishment experienced <sup>(26)</sup>. While, another study found that 97.1% of staff nurses in emergency or intensive care units experienced low level of personal accomplishment (PA) <sup>(24)</sup>.

The present study revealed that the total mean score degree of coping strategies used by nursing staff in ICUs at Mansoura university hospitals is in moderate level(**table 3**). The result of the present study supported by a study conducted at china, to examine the exact stress factors and coping strategies among Chinese ICU nurses. The results showed that ICU nurses had moderate level of coping <sup>(27)</sup>.

In the same line, another study, found that majority of the ICUs nurses had moderate level of coping <sup>(28)</sup>.

The present study revealed that, there was statistical significant difference between burnout and coping strategies among ICUs nursing staff at Mansoura University Hospitals (**table 4**); that means the more the burnout nurse experience, the more coping will be used. Various studies have related coping strategies with burnout and other consequences of occupational stress in professionals working in the caring professions and other human services. Congruent with our finding study done at State University of New York <sup>(29)</sup>, to examine the relationship between use of coping strategies and burnout among 150 randomly selected staff nurses. He found that significant relationship between burnout and coping strategies.

Moreover, results of present study revealed that workplace, site of ICU, age, education qualifications, position at ICU and having children have an impact on

different level of burnout and coping strategies.

**Conclusion:**

Both burnout and coping strategies among nursing staff in intensive care units at Mansoura University Hospitals were in moderate level. There was statistical significant difference between burnout and coping strategies. That means the more burnout nursing staff experienced, the more coping strategies they will use.

**Recommendation:**

Based on the results of the present study, the most important recommendations are:

1-Work redesign plans as well as early assessment and intervention may be helpful in the reduction of job burnout among nursing staff working in hospitals especially in intensive care units

2-Measures to alleviate job stress among nurses should be applied through using organization-focused interventions as:

- Ensure that the workload is in line with workers' capabilities and resources.
- Design jobs to provide meaning, stimulation, and opportunities for nurses to use their skills.
- Clearly define nurses' roles and responsibilities.
- Give nurses opportunities to participate in decisions and actions affecting their jobs.
- Improving communication.
- Reduce uncertainty about career development and future employment prospects.
- Provide opportunities for social interaction among nurses; and
- Establishing work schedules that are compatible with demands and responsibilities outside the job.

3- It is important that reward systems implemented in order to give recognition to staff members for the work they do.

**Further research**

Further research needed in the area of burnout to examine what kinds of health

care environments are effective in preventing burnout among ICU nursing staff.

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